Complete Summary

TITLE

Acute myocardial infarction: percent of patients receiving fibrinolytic therapy during the hospital stay and having a time from hospital arrival to fibrinolysis of 30 minutes or less.

SOURCE(S)

Specifications manual for national hospital inpatient quality measures, version 3.0c. Centers for Medicare & Medicaid Services (CMS), The Joint Commission; 2009 Oct 1. various p.

Measure Domain

PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the Measure Validity page.

SECONDARY MEASURE DOMAIN

Does not apply to this measure

Brief Abstract

DESCRIPTION

This measure is used to assess the percent of acute myocardial infarction (AMI) patients with ST-segment elevation or left bundle branch block (LBBB) on electrocardiogram (ECG) closest to arrival time receiving fibrinolytic therapy during the hospital stay and having a time from hospital arrival to fibrinolysis of 30 minutes or less.

RATIONALE

Time to fibrinolytic therapy is a strong predictor of outcome in patients with an acute myocardial infarction (AMI). Nearly 2 lives per 1000 patients are lost per hour of delay (Fibrinolytic Therapy Trialists' Collaborative Group, 1994). National guidelines recommend that fibrinolytic therapy be given within 30 minutes of hospital arrival in patients with ST-elevation myocardial infarction (Antman,

2004). Despite these recommendations, few eligible older patients hospitalized with AMI receive timely fibrinolytic therapy (Jencks, 2000).

PRIMARY CLINICAL COMPONENT

Acute myocardial infarction (AMI); ST-segment elevation; left bundle branch block (LBBB); fibrinolytic therapy

DENOMINATOR DESCRIPTION

Acute myocardial infarction (AMI) patients with ST-segment elevation or left bundle branch block (LBBB) on electrocardiogram (ECG) performed closest to hospital arrival who received fibrinolytic therapy within 6 hours after hospital arrival and the fibrinolytic therapy is primary reperfusion therapy (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

NUMERATOR DESCRIPTION

Acute myocardial infarction (AMI) patients whose time from hospital arrival to fibrinolysis is 30 minutes or less

Evidence Supporting the Measure

EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence
- A systematic review of the clinical literature
- One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

NATIONAL GUIDELINE CLEARINGHOUSE LINK

- (1) ACC/AHA guidelines for the management of patients with ST-elevation myocardial infarction. A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Committee to revise the 1999 guidelines for the Management of Acute Myocardial Infarction). (2) 2007 focused update of the ACC/AHA 2004 guidelines for the management of patients with ST-elevation myocardial infarction. A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines.

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Overall poor quality for the performance measured
Use of this measure to improve performance

EVIDENCE SUPPORTING NEED FOR THE MEASURE

Antman EM, Anbe DT, Armstrong PW, Bates ER, Green LA, Hand M, Hochman JS, Krumholz HM, Kushner FG, Lamas GA, Mullany CJ, Ornato JP, Pearle DL, Sloan MA, Smith SC Jr. ACC/AHA guidelines for the management of patients with ST-elevation myocardial infarction. A report of the Am Coll of Cardiol/Am Heart Assoc Task Force on Practice Guidelines (Committee to revise the 1999 guidelines). Bethesda (MD): American College of Cardiology, American Heart Association; 2004. 211 p. [1398 references]

Indications for fibrinolytic therapy in suspected acute myocardial infarction: collaborative overview of early mortality and major morbidity results from all randomised trials of more than 1000 patients. Lancet1994 Feb 5;343(8893):311-22. [58 references] PubMed

Jencks SF, Cuerdon T, Burwen DR, Fleming B, Houck PM, Kussmaul AE, Nilasena DS, Ordin DL, Arday DR. Quality of medical care delivered to Medicare beneficiaries: A profile at state and national levels. JAMA2000 Oct 4;284(13):1670-6. PubMed

Krumholz HM, Anderson JL, Brooks NH, Fesmire FM, Lambrew CT, Landrum MB, Weaver WD, Whyte J, Bonow RO, Bennett SJ, Burke G, Eagle KA, Linderbaum J, Masoudi FA, Normand SL, Pina IL, Radford MJ, Rumsfeld JS, Ritchie JL, Spertus JA, American College of Cardiology, American Heart Association Task Force on Performance Measures, Writing Committee to Develop Performance Measures on ST-Elevation and non ST-Elevation MI. ACC/AHA clinical performance measures for adults with ST-elevation and non ST-elevation myocardial infarction. J Am Coll Cardiol2006 Jan 3;47(1):236-65. PubMed

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Accreditation
Collaborative inter-organizational quality improvement
External oversight/Medicaid
External oversight/Medicare
Internal quality improvement
National reporting
Pay-for-performance

Application of Measure in its Current Use

CARE SETTING

Hospitals

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Measure is not provider specific

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

TARGET POPULATION AGE

Age greater than or equal to 18 years

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

Each year 900,000 people in the United States (U.S.) are diagnosed with acute myocardial infarction (AMI); of these, approximately 225,000 cases result in death, and it is estimated that an additional 125,000 patients die before obtaining medical care.

EVIDENCE FOR INCIDENCE/PREVALENCE

American College of Cardiology, American Heart Association Task Force on Practice Guidelines, Committee on Management of Acute Myocardial Infarction. Ryan TJ, Antman EM, Brooks NH, Califf RM, Hillis LD, Hiratzka LF, Rapaport E, Riegel B, Russell RO, Smith EE III, Weaver WD. ACC/AHA guidelines for the management of patients with acute myocardial infarction: 1999 Update. Bethesda (MD): American College of Cardiology (ACC), American Heart Association (AHA); 1999. Various p.

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

Cardiovascular disease, including acute myocardial infarction (AMI), is the leading cause of death in the United States (U.S.).

See also the "Rationale" and "Incidence/Prevalence" fields.

EVIDENCE FOR BURDEN OF ILLNESS

French WJ. Trends in acute myocardial infarction management: use of the National Registry of Myocardial Infarction in quality improvement. Am J Cardiol2000 Mar 9;85(5A):5B-9B; discussion 10B-12B. PubMed

UTILIZATION

Cardiovascular disease, including acute myocardial infarction (AMI), is the primary disease category for hospital patient discharges.

EVIDENCE FOR UTILIZATION

French WJ. Trends in acute myocardial infarction management: use of the National Registry of Myocardial Infarction in quality improvement. Am J Cardiol2000 Mar 9;85(5A):5B-9B; discussion 10B-12B. PubMed

COSTS

Unspecified

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness
Timeliness

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

Discharges, 18 years of age and older, with a principal diagnosis of acute myocardial infarction (AMI) with ST-segment elevation or left bundle branch block (LBBB) on electrocardiogram (ECG) performed closest to hospital arrival who received fibrinolytic therapy within 6 hours after hospital arrival and the fibrinolytic therapy is primary reperfusion therapy

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions
Discharges, 18 years of age and older, with an International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Principal Diagnosis Code for acute myocardial infarction (AMI) as defined in Appendix A, Table 1.1, of the original measure documentation *and* ST-segment elevation or left bundle branch block (LBBB) on the electrocardiogram (ECG) performed closest to hospital arrival *and* fibrinolytic therapy within 6 hours after hospital arrival and fibrinolytic therapy is primary reperfusion therapy

Exclusions

- Patients less than 18 years of age
- Patients who have a Length of Stay (LOS) greater than 120 days
- Patients enrolled in clinical trials
- Patients received as a transfer from an acute care facility where they were an inpatient or outpatient
- Patients received as a transfer from one distinct unit of the hospital to another distinct unit of the same hospital
- Patients received as a transfer from the emergency department of another hospital
- Patients who did not receive fibrinolytic therapy within 30 minutes and had a reason for delay documented by a physician/advanced practice nurse/physician assistant (e.g., social, religious, initial concern or refusal, cardiopulmonary arrest, balloon pump insertion, respiratory failure requiring intubation)

RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

DENOMINATOR (INDEX) EVENT

Clinical Condition
Institutionalization
Therapeutic Intervention

DENOMINATOR TIME WINDOW

Time window brackets index event

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions
Acute myocardial infarction (AMI) patients whose time from hospital arrival to fibrinolysis is 30 minutes or less

Exclusions
None

MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

NUMERATOR TIME WINDOW

Fixed time period

DATA SOURCE

Administrative data
Medical record

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

External comparison at a point in time
External comparison of time trends
Internal time comparison
Prescriptive standard

PRESCRIPTIVE STANDARD

National guidelines recommend that fibrinolytic therapy be given within 30 minutes of hospital arrival in patients with ST-elevation myocardial infarction.

EVIDENCE FOR PRESCRIPTIVE STANDARD

Antman EM, Anbe DT, Armstrong PW, Bates ER, Green LA, Hand M, Hochman JS, Krumholz HM, Kushner FG, Lamas GA, Mullany CJ, Ornato JP, Pearle DL, Sloan MA, Smith SC Jr. ACC/AHA guidelines for the management of patients with ST-elevation myocardial infarction. A report of the Am Coll of Cardiol/Am Heart Assoc Task Force on Practice Guidelines (Committee to revise the 1999 guidelines). Bethesda (MD): American College of Cardiology, American Heart Association; 2004. 211 p. [1398 references]

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

The core measure pilot project was a collaboration among The Joint Commission, five state hospitals associations, five measurement systems, and 83 hospitals from across nine states. Participating hospitals collected and reported data for acute myocardial infarction (AMI) measures from December 2000 to December 2001.

Core measure reliability visits were completed the summer of 2001 at a random sample of 16 participating hospitals across 6 states.

EVIDENCE FOR RELIABILITY/VALIDITY TESTING

The Joint Commission. A comprehensive review of development and testing for national implementation of hospital core measures. Oakbrook Terrace (IL): The Joint Commission; 40 p.

Identifying Information

ORIGINAL TITLE

AMI-7a: fibrinolytic therapy received within 30 minutes of hospital arrival.

MEASURE COLLECTION

National Hospital Inpatient Quality Measures

MEASURE SET NAME

Acute Myocardial Infarction

SUBMITTER

Centers for Medicare & Medicaid Services
Joint Commission, The

DEVELOPER

Centers for Medicare & Medicaid Services/The Joint Commission

FUNDING SOURCE(S)

All external funding for measure development has been received and used in full compliance with The Joint Commission's Corporate Sponsorship policies, which are available upon written request to The Joint Commission.

COMPOSITION OF THE GROUP THAT DEVELOPED THE MEASURE

The composition of the group that developed the measure is available at: http://www.jointcommission.org/NR/rdonlyres/40EDE16E-0ECC-45E0-8CEC-71C97FF515D0/0/CardiovascularConditionsClinicalAdvisoryPanel.pdf.

FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST

Expert panel members have made full disclosure of relevant financial and conflict of interest information in accordance with the Conflict of Interest policies, copies of which are available upon written request to The Joint Commission and the Centers for Medicare & Medicaid Services.

ENDORSER

National Quality Forum

INCLUDED IN

Hospital Compare
Hospital Quality Alliance

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2000 Aug

REVISION DATE

2009 Oct

MEASURE STATUS

This is the current release of the measure.

This measure updates a previous version: Specifications manual for national hospital quality measures, version 2.6b. Centers for Medicare & Medicaid Services (CMS), The Joint Commission; 2008 Oct. various p.

SOURCE(S)

Specifications manual for national hospital inpatient quality measures, version 3.0c. Centers for Medicare & Medicaid Services (CMS), The Joint Commission; 2009 Oct 1. various p.

MEASURE AVAILABILITY

The individual measure, "AMI-7a: Fibrinolytic Therapy Received Within 30 Minutes of Hospital Arrival," is published in "Specifications Manual for National Hospital Inpatient Quality Measures." This document is available from The Joint Commission Web site. Information is also available from the Centers for Medicare & Medicaid Services (CMS) Web site. Check The Joint Commission Web site and CMS Web site regularly for the most recent version of the specifications manual and for the applicable dates of discharge.

COMPANION DOCUMENTS

The following are available:

- A software application designed for the collection and analysis of quality improvement data, the CMS Abstraction and Reporting Tool (CART), is available from the CMS CART Web site. Supporting documentation is also available. For more information, e-mail CMS PROINQUIRIES at proinquiries@cms.hhs.gov.
- The Joint Commission. A comprehensive review of development and testing for national implementation of hospital core measures. Oakbrook Terrace (IL): The Joint Commission; 40 p. This document is available from The Joint Commission Web site.
- The Joint Commission. Attributes of core performance measures and associated evaluation criteria. Oakbrook Terrace (IL): The Joint Commission; 5 p. This document is available from The Joint Commission Web site.
- Hospital compare: a quality tool provided by Medicare. [internet]. Washington (DC): U.S. Department of Health and Human Services; 2009 Oct 5; [accessed 2009 Oct 12]. This is available from the Medicare Web site. See the related QualityTools summary.

NQMC STATUS

This NQMC summary was originally completed by ECRI on February 7, 2003. This NQMC summary was updated by ECRI Institute on October 6, 2005, April 16, 2007, and October 26, 2007. The Joint Commission informed NQMC that this measure was updated on August 13, 2008 and provided an updated version of the NQMC summary. This NQMC summary was updated accordingly by ECRI Institute on November 11, 2008. The information was verified by the Centers for Medicare & Medicaid Services on January 22, 2009. The Joint Commission informed NQMC that this measure was updated again on October 1, 2009 and provided an updated version of the NQMC summary. This NQMC summary was updated accordingly by ECRI Institute on November 25, 2009. The information was verified by the Centers for Medicare & Medicaid Services on February 18, 2010.

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